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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/657,187	09/09/2003	Masaru Kouno	0229-0776P	1623

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EXAMINER

BLAU, STEPHEN LUTHER

ART UNIT	PAPER NUMBER
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3711

DATE MAILED: 03/02/2005

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary

Application No.

10/657,187

Applicant(s)

KOUNO ET AL.

Examiner

Stephen L. Blau

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-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 22 November 2004.
- 2a) ☒ This action is FINAL. 2b) ☐ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-3, 5, 7 and 10-13 is/are pending in the application.
- 4a) Of the above claim(s) 13 is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 1-3, 5, 7 and 10-12 is/are rejected.
- 7) ☐ Claim(s) _____ is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on _____ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some * c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
 2. ☐ Certified copies of the priority documents have been received in Application No. _____.
 3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- | | |
|--|---|
| 1) <input type="checkbox"/> Notice of References Cited (PTO-892) | 4) <input type="checkbox"/> Interview Summary (PTO-413)
Paper No(s)/Mail Date. _____ |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948) | 5) <input type="checkbox"/> Notice of Informal Patent Application (PTO-152) |
| 3) <input type="checkbox"/> Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08)
Paper No(s)/Mail Date _____ | 6) <input type="checkbox"/> Other: _____ |

DETAILED ACTION

Election/Restrictions

1. Newly submitted claim 13 is directed to an invention that is independent or distinct from the invention originally claimed for the following reasons: Claim 13 is a method claim which requires a process of selecting characteristics of a head and satisfying conditions of a formula. There are other methods of forming heads as claimed without selecting characteristics based on a formula.

Since applicant has received an action on the merits for the originally presented invention, this invention has been constructively elected by original presentation for prosecution on the merits. Accordingly, claim 13 is withdrawn from consideration as being directed to a non-elected invention. See 37 CFR 1.142(b) and MPEP § 821.03.

Claim Rejections - 35 USC § 112

2. The changes to claims are agreed with and the rejections under 35 U.S.C. 112, second paragraph, are removed.

Double Patenting

3. The Terminal Disclaimer filed 22 November 2005 has been approved and entered. As such the rejection under the judicially created doctrine of obviousness-type double patenting has been removed.

Claim Rejections - 35 USC § 103

4. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

5. Claims 1-3, 5, 7, and 10-12 are rejected under 35 U.S.C. 103(a) as being unpatentable over Rugge in view of Cackett, Oonuki, Iwata, and Stites.

Rugge discloses a head volume of 250 cc or greater (Col. 5, Lns. 60-63), volumes as high as 285 cc (Table 1), a gravity point distance of 27-33 mm (Col. 5, Lns. 25-31), a distance between a heel end and a shaft center line (Fig. 1), a head having a hollow main body with a face plate attached to a front of a main body (Fig. 5) and a body and face plate made of titanium alloy (Col. 5, Lns. 66 through Col. 6, Lns. 8) in order to have the center of gravity closer to the shaft axis thereby reducing the moment of inertia about the shaft axis making rotation of a head easier during the swing motion and enhance proper perpendicular positioning of the head in relation to the targeted trajectory (Col. 5, Lns. 8-30).

Rugge lacks a head volume not less than 300 cc, the a gravity point distance being the shortest distance between the shaft center line and a projected gravity point on a vertical plane containing the shaft center line meeting the equations of claims 1-3 and 5, a ratio of a moment of inertia of a head around a vertical axis passing through a gravity point to a head volume being in range from 9-11, a sweet spot height being in a range from 25-40 mm and a distance between a heel end and a shaft center line being in a range of 8-16 mm.

Cackett discloses a head having a volume not less than 300 cc (Abstract) and a ratio of a moment of inertia of a head around a vertical axis passing through a gravity point to a head volume being in range from 9-11 (Abstract) in order to have the advantages of a large volume and large moment of inertia head (Col. 2, Lns. 38-48). In view of the patent of Cackett it would have been obvious to modify the head of Rugge to have a head volume not less than 300 cc and a ratio of a moment of inertia of a head around a vertical axis passing through a gravity point to a head volume being in range from 9-11 in order to have the advantages of a large volume and large moment of inertia head.

Rugge will have an orientation of a gravity point distance between the shaft center line and a projected gravity point on a vertical plane containing the shaft center line in view of figure 2 and clearly it would be a distance less than the distance from the center of gravity to a shaft axis (Fig. 2). Rugge discloses a center of gravity being 27 mm along a perpendicular distance from a shaft axis and 13 mm from a vertical plane containing the shaft axis (Col. 5, Lns. 42-43). As such a gravity point distance between the shaft center line and a projected gravity point on a vertical plane containing the shaft center line would meet all the equations of claims 1-5 for a 300 cc volume head with the distance being just less than 24 mm (Right triangle having the

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hypotenuse side being 27 mm (Col. 5, Lns. 25-31) and one of the other sides being 13 mm (Col. 5, Lns. 32-50)). Oonuki discloses the center of gravity of a head and a center of gravity of the of the scoring area being 20-50 mm away from a shaft axis in a perpendicular direction (Col. 2, Lns. 23-35, Fig. 66). In view of the patent of Oonuki it would have been obvious to modify the head of Rugge to have a gravity point distance as defined by the claims meeting the equations in order to have the center of gravity closer to the shaft axis thereby reducing the moment of inertia about the shaft axis making rotation of a head easier during the swing motion and enhance proper perpendicular positioning of the head in relation to the targeted trajectory.

Iwata discloses a sweet spot height being in a range from 25-40 mm (Col. 16 Table 2). In view of the patent of Iwata it would have been obvious to modify the head of Rugge to have a sweet spot being in a range from 25-40 mm in order to utilize a sweet spot height used in the art.

Stites discloses a distance between a heel end and a shaft center line being in a range of 10-16 mm lacks (Col. 6, Lns. 48-50). In view of the patent of Stites it would have been obvious to modify the head of Rugge to have a distance between a heel end and a shaft center line being in a range of 10-16 mm in order to utilize a distance used in the art, add weight on the heel side of a head to move the center of gravity closer to a shaft and in order to make the head legal to be used in the PGA.

Due to these claims being apparatus claims very little weight is given to the process of how the face plate is attached to the body (i.e. welding, cast, etc...). The final product is the same of a hollow head with a face being a plate both being a titanium alloy.

Response to Arguments

6. The argument that the reference of Rugge is improper due to head volumes of 250 to 285 cc were characterized is disagreed with. Rugge did not limit the volume to only this range but to volumes greater than or equal to 250 cc. Clearly an artisan skilled in the art at the time of the invention with heads much larger than 285 cc would see it obvious to apply the advantages of Rugge to current oversized heads as 300 cc as taught by Cackett. A 300 cc head as taught by Cackett with the distance between the shaft axis and the center point as taught by Rugge would satisfy the conditions required by conditions (4) and (5) $((.12 \times 300) - 20) = 16$ and $((.12 \times 300) - 8) = 28$. The argument that the combination of references of Rugge and Cackett would result in a head size both less than 300 cc and more than 300 cc is disagreed with. The combination would be oversized heads greater or equal to 250 cc and more than 300 cc as taught by these references. The argument that the reference of Oonik is improper due to Oonuki recommending a design not in the range of prior art 20 –50 mm distances is disagreed with. The examiner was not using Oonik's invention for the distances but to show that it is known to have a wide variety of ranges between the shaft axis and the center of gravity. This would allow a wide variety of ranges between a projected center of gravity on a vertical plane containing the shaft axis.

7. **THIS ACTION IS MADE FINAL.** Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a).

A shortened statutory period for reply to this final action is set to expire THREE MONTHS from the mailing date of this action. In the event a first reply is filed within TWO MONTHS of the mailing date of this final action and the advisory action is not mailed until after the end of the THREE-MONTH shortened statutory period, then the shortened statutory period will expire on the date the advisory action is mailed, and any extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of the advisory action. In no event, however, will the statutory period for reply expire later than SIX MONTHS from the mailing date of this final action.

Conclusion

8. Any inquiry concerning this communication or earlier communications from the examiner should be directed to Steve Blau whose telephone number is (571) 272-4406. The examiner is available Monday through Friday from 8 a.m. to 4:30 p.m.. If the examiner is unavailable you can contact his supervisor Greg Vidovich whose telephone number is (571) 272-4415. Any inquiry of a general nature or relating to the status of this application should be directed to the Group receptionist whose telephone number is (703) 308-0858. (TC 3700 Official Fax 703-872-9306)

slb/ 28 February 2005


STEPHEN BLAU
PRIMARY EXAMINER